



EAR TO THE GROUND

The Division of Earth Science (EAR) is part of the Directorate for Geosciences (GEO) at the National Science Foundation (NSF).

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Image Credit: Pavel Izbekov

Tolbachik volcano in Kamchatka, Russia; Geophysical Institute, University

UPDATE FROM THE DIVISION DIRECTOR



Rotator Program Director: Is this position in your future?

I've spent some very interesting initial months at NSF getting to know the organization that supports our research from the award-management perspective. I can confirm what you already know--that the EAR community is served by dedicated program officers and support staff. EAR is particularly fortunate to benefit from expert career program directors who work alongside rotating program directors to administer both core programs and cross-cutting initiatives. In the short four months since my arrival, I have experienced both the excitement of "rotator" arrival and the

UPDATE FROM THE DIVISION DIRECTOR

bittersweet of their departure. EAR depends on the energy, expertise, and creativity of these rotating program directors to maintain vibrant and responsive programs. I'd like to encourage you to consider taking a rotator position at some point in your career.

Rotators make recommendations about which proposals to fund; influence new directions in the fields of science, engineering, and education; support cutting-edge interdisciplinary research; and mentor early-career researchers. As a rotator, you are in a prime position to collaborate with others and increase your visibility as you survey the entire breadth of U.S. and international science, engineering, and education in real time. In addition, as a temporary program director, you can retain your ties to your current institution and return to it with new insights and experience.

There are several types of available appointments for rotators. Individuals appointed to the **VSEE program** are on a non-paid leave of absence from their institution. Initial appointments are typically made for up to one year and extended for an additional year. Salary is set using pre-established criteria. In addition, NSF reimburses the home institution for the employer's share of retirement, life insurance, and health benefits. Alternatively, rotators may be appointed via **Intergovernmental Personnel Act (IPA) assignments**, by which rotators remain on the home institution's payroll in an active pay status while assigned to NSF. NSF provides funds for salary and benefits to the home institution, which administers them. IPA assignments may be made for up to four years. Both VSEE and IPA program rotators are entitled to receive a per diem allowance or a round-trip movement of household goods.

Another important aspect of NSF rotator positions is the opportunity to participate in the Independent Research/Development (IR/D) program, which permits individuals with approved IR/D plans to maintain their involvement with their professional research while at NSF.

Experience on NSF merit review panels is good preparation for being a rotator, as are other activities that develop a broad knowledge of EAR research and its areas of innovation.

More information is available at <http://www.nsf.gov/careers/rotator/> Please let me or your program director know if you are interested in what is typically a two-year commitment. We have immediate opportunities for rotators in sedimentary geology and paleobiology, and in geomorphology and land-use dynamics. We'll be happy send you notice of rotator position openings in other disciplines as they arise.

EAR WELCOMES



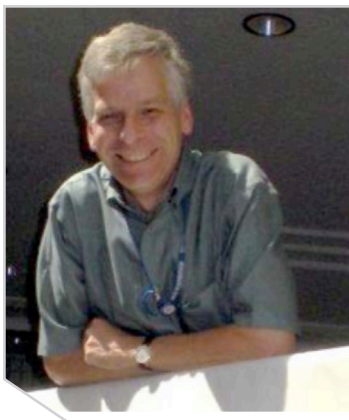
Luciana Astiz joined NSF in early February as a Program Director in the Geophysics Program. She has a broad background in Seismology with interest in seismic sources, precise earthquake locations, Earth structure, the earthquake cycle, seismic array design and network monitoring. She was chief editor of the *Seismological Research Letters* and taught large undergraduate classes at UCSD while working at the USArray Array Network Facility. She worked at the Comprehensive Nuclear Test Ban Treaty Organization in Vienna, Austria as a seismic officer and had two post-doctoral appointments at UCSD and UW after receiving her PhD at the California Institute of Technology. She received her B.S. in Geophysics from the National Autonomous University of Mexico (UNAM).



Henry Teng joined NSF this spring for a temporary expert appointment to work with the Geobiology and Low-Temperature Geochemistry Program. He is an associate professor of Chemistry/Geosciences/Environmental Resource Policy program at George Washington University. He received his B.S. from Nanjing University (China), M.S. from Temple University, and PhD from Georgia Institute of Technology. His research interests lie in the general area of mineral surface geochemistry (including bio-mediated interfacial processes) but particularly in those related to the thermodynamics and kinetics of crystal growth and dissolution, as well as biomineralization.



Hailiang Dong, program director in Geobiology and Low-Temperature Geochemistry, will be taking a leave of absence this summer to work on his research from June 2 through August 31. During this time, Hailiang will have limited access to e-mail only. Inquiries regarding the Geobiology and Low-Temperature Geochemistry Program may be directed to Enriqueta Barrera or Henry Teng until the end of August. Herb Wang comes to EAR's IF Program June 29. He is Professor of Geoscience at the University of Wisconsin-Madison. His research interests are in geomechanics and its intersection with hydrogeology. His research group investigated deformation at the scale of several meters using hydrostatic level sensors and Fiber Bragg Grating (FBG) sensors in the Stanford Underground Research Facility (SURF) and at Fermilab. His interest in fiber-optic sensing includes distributed sensing, which led to the deployment of a Distributed Acoustic Sensing (DAS) array at the Garner Valley Downhole Array (GVDA) in southern California, which was an NSF Network for Earthquake Engineering Simulation (NEES) site.



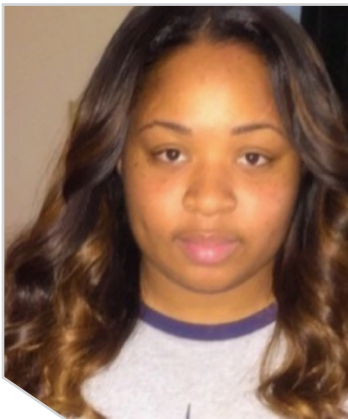
Since returning to NSF in the summer of 2014, Richard Yuretich has been a Program Director in the Geomorphology & Land-use Dynamics (GLD) Program. In March, 2015, Richard accepted a permanent appointment as Section-Wide Program Director in Surface Earth Processes. Richard's new position will involve management of the Critical Zone Observatories and he will remain a point-of-contact for the GLD program through the end of June. Richard has a broad background in the Earth sciences with multiple interests in lake sediments, clay minerals, environmental geochemistry, sedimentology, and education research. He has extensive experience in community service having been a leader of the Early Career Geosciences faculty workshops for over 10 years and on the editorial boards of numerous scientific journals. He also brings with him extensive administrative experience, some of which was gained when he was a rotator in the GLD Program from 2008-2010.



David Domanski joins NSF this June as a new science assistant in the Surface Earth Processes Section (SEP) of the Division of Earth Sciences from his previous position as a research and policy intern with Rails-to-Trails Conservancy (RTC). David had been working on projects including: transportation and environmental policy, geographic information system (GIS), and web content editing at RTC since graduating from the University of Mary Washington with a B.S. in environmental science and political science. His interest in science began in high school while working for an environmental service organization, Accurate Marine Environmental. David learned how to safely assess samples containing, oil, sewage, and hazardous waste as a lab technician at the wastewater and oil treatment facility. He is very excited for the opportunity to work for the Surface Earth Processes Section and cannot wait to get to work.



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Brittany Gardner joins EAR as a recent graduate of Bennett College, located in Greensboro, North Carolina. She recently obtained a B.A. in Journalism and Media Studies. Brittany has interned with EAR in the past, and will be returning for the summer. She plans to pursue a Master's degree in photography soon after her internship with NSF at the wastewater and oil treatment facility. She is very excited for the opportunity to work for the Surface Earth Processes Section and cannot wait to get to work.



Margaret Doyle joins EAR as a Yorktown High School "Senior Experience" intern. She volunteered as a summer intern in 2014 and will be returning to continue her work on EAR communications. After her internship with NSF, Margaret will begin studying at UVA this fall.

EAR SAYS FAREWELL



Rachel Thornton, science assistant in the Surface Earth Processes Section (SEP) of the Division of Earth Sciences, is leaving after two years of service. In addition to serving SEP, she mentored summer intern Margaret Doyle, served as co-editor of *EAR to the Ground*, facilitated Graduate Research Fellowship panel review, and initiated a partnership with STEM education and advocacy organization *ReSET* while chairing the Outreach Committee of the Science Assistant Community of Practice (SA CoP). Rachel joined NSF following two years of oil and gas industry experience with Chesapeake Energy after graduating with a B.S. in geology from Kent State University in 2011. She will begin a graduate program this fall at University of Cincinnati to study geomorphology. Rachel says: "I owe an immeasurable debt of gratitude to my wonderful colleagues who have graciously mentored me. I consider myself lucky to carry the knowledge I've gained through this experience with me to my future endeavors."



After 2-year service to NSF as a Program Director, Chris Yusheng Liu will be leaving NSF in mid-July. In addition to working in the SGP program, Chris was involved in two cross disciplinary programs with *NSF BIO*, *GoLife (Genealogy of Life)* and *ADBC (Advancing Digitization of Biodiversity Collections)*. His additional duties included *EAR to the Ground* Newsletter co-editor, planning committee chair of the Surface Earth Processes Section retreat, and panel co-manager for several across NSF programs, such as the Geoscience Graduate Research Fellowship and Science Technology Centers. Chris will begin his new position as a research administrator in Texas.

RE-COMPETITION OF OPERATIONS AND MANAGEMENT FACILITIES TO SUCCEED SAGE AND GAGE FACILITIES

The Division of Earth Sciences (EAR) currently supports two large multi-user facilities -- the *Geodesy Advancing Geosciences and EarthScope (GAGE) Facility* and the *Seismological Facilities for the Advancement of Geosciences and EarthScope (SAGE)* -- that provide geodetic, seismic, and related geophysical instrumentation, data, and educational capabilities to a wide range of EAR-supported communities. NSF is preparing for a competition for future Cooperative Agreement(s) to support management and operations of one or more facilities to provide geodetic, seismic, and/or related geophysical capabilities following expiration of the current GAGE and SAGE cooperative agreements. The planned competition is the second stage in a two-stage integration and re-competition process that NSF developed, presented to the National Science Board (NSB), and described to the community in 2009 ([Dear Colleague Letter NSF 10-021](#)).

The planned competition will be held via an open, merit-based, external peer-review process consistent with the NSF Grant Proposal Guide and the NSB Resolution on Competition and Re-competition of NSF Awards ([NSB-08-12](#)). EAR is currently preparing the program solicitation for this competition, which is expected to lead to one or more cooperative agreement(s) for one or more facilities following the end of the current GAGE and SAGE cooperative agreements on 30 September 2018.

Although the competition is still in the planning stage, NSF intends to follow this general schedule:

- **August 1, 2015:** Deadline for submission to NSF of written comments on desired capabilities for future facilities resulting from the planned competition.
 - Comments should be submitted as a PDF document not to exceed two pages in length, sent as an attachment to an email to the primary contacts listed below.
- **First Quarter of calendar year 2016:** Release of program solicitation.
- **December 2016:** Anticipated due date for full proposals in response to the planned solicitation.

For more information regarding the upcoming competition, please see [Dear Colleague Letter \(DCL\) NSF 15-076](#). All inquiries regarding the DCL and the anticipated competition should be directed via email to:

Greg Anderson, Program Director, EAR-Instrumentation and Facilities/SAGE, greander@nsf.gov

Russell Kelz, Program Director, EAR-Instrumentation and Facilities/GAGE, rkelz@nsf.gov

SEDIMENTARY GEOLOGY, TIME, ENVIRONMENT, PALEONTOLOGY, PALEOCLIMATOLOGY, ENERGY (STEPPE)

STEPPE is an NSF-supported consortium serving the scientific community to advance the study of Earth's deep-time sedimentary crust. The nature of this research spans many scientific disciplines including: biology, ecology, geochemistry, geochronology, geography, oceanography, paleoclimatology, sedimentary geochemistry, sedimentary geology, stratigraphy, and more. A primary goal of STEPPE is to encourage collaboration across this diverse community to tackle the big problems. "Toward this end, STEPPE is working to provide an interactive space that will serve as both a gathering place and clearinghouse of information, allowing for broader integration of research and education across all STEPPE-related sub disciplines," says Dena Smith, Executive Director of STEPPE. Their website houses a variety of resources to engage participants, facilitate communication, improve access to data, develop infrastructure, and articulate priorities for research on the sedimentary crust.

Resources include:

- STEPPE Connect Platform
- A searchable funding database
- Conference and event listings
- Workshop reports & white papers related to sedimentary crust research
- Consortium member publications
- Blogs, fora, etc.

For more information about these resources, consortium members/partners, or STEPPE-related research, visit steppe.org



"It's About Time: Opportunities & Challenges for U.S. Geochronology"



The National Academy of Sciences report from 2012 entitled "New Research Opportunities in Earth Sciences" (see <http://www.nap.edu/catalog/13236/new-research-opportunities-in-the-earth-sciences>) recommended that the Division of Earth Sciences (EAR) "explore new mechanisms for geochronology laboratories that will service the geochronology requirements of the broad suite of research opportunities while sustaining technical advances in methodologies."

Over the past year, a group of geochronologists assembled as a committee to investigate the pressing needs for this community in the U.S. Last March, members of the committee presented NSF with the results of their findings as a community report entitled "It's About Time: Opportunities and Challenges for U.S. Geochronology." We encourage our broader community to read it and provide additional feedback to NSF as needed.

The report can be accessed electronically at

http://www.princeton.edu/geosciences/people/schoene/pdf/2014_geochronologyreport_FINAL.pdf.

BROADER IMPACTS – EXAMPLES FROM THE GROUND

Achieving Broader Impacts through Informal Science Education

Dr. Justin Lawrence

In collaboration with EAR Program Directors, we are collecting quality examples and ideas for broader impacts and will continue to share them with you in future issues of EAR to the Ground. In this issue, we draw your attention to the Center for the Advancement of Informal Science Education (CAISE). The informal science education (ISE) space offers many exciting opportunities for exploring creative, original, and potentially transformative ideas on benefits to society or desired societal outcomes. However, our intent is not to have all the broader impacts in EAR look alike, and not all broader impacts are ISE. We are seeking a balanced broader impacts portfolio in EAR with the broader impacts being as focused, well planned, and implemented as intellectual merit. Broader impacts should be a source of pride for PIs.



Title: Center for the Advancement of Informal Science Education

Award Numbers: 0638981/1212803

PIs:

James R Bell

Kevin Crowley

Kirsten M Ellenbogen

John H Falk

Sue Ellen McCann

As an Earth science researcher thinking about broader impacts, you may consider engaging audiences beyond your colleagues in the science that informs the questions you are investigating and their relevance to society. Informal science, technology, engineering, and mathematics (STEM) learning occurs effectively in various settings and through a broad suite of designed environments and products. CAISE offers a cutting-edge resource (<http://informalscience.org>) to help you focus, plan, and implement broader impacts based on professional ISE principles.

In planning an ISE activity you could focus, for example, on a particular informal learning environment, such as media and cyber learning, public programs, exhibits, or professional development. On the CAISE website, you can browse resources for each of these learning environments, categorized by scientific discipline. We encourage you to explore the “Earth, Space, Climate” disciplinary category for ideas. The project descriptions list the team members. You may consider contacting them for more information.

Another useful feature of this resource is the “Evaluation & Assessment” section. This can help you with the NSF merit review criterion that asks whether your plan incorporates a mechanism to assess success. The Principal Investigator’s Guide, Evaluation Reports, and Assessment Tools are worth exploring.

Other related websites that CAISE recommends include: the American Association for the Advancement of Science (<http://www.aaas.org/pes>), Assessment Tools in Informal Science (<http://pearweb.org/atis>), Centers for Ocean Sciences Education Excellence (<http://coseenow.net/scientist-resources/broader-impact/>), Nanoscale Informal Science Education (http://www.nisenet.org/search/product_category/for-scientists-29), National Alliance for Broader Impacts (<http://broaderimpacts.net/>), Portal to the Public (<http://popnet.pacificsciencecenter.org/>), and Quest (<http://science.kqed.org/quest/collections/>).

STUDENT SPOTLIGHT



Nate Rabideuax, PhD student at Georgia State University, works at the NSF-funded LacCore (National Lacustrine Core) Facility at the University of Minnesota. He works with Dr. Daniel Deocampo on mineralogical studies in East Africa. They use the geochemistry of clay minerals in Quaternary lake sediment cores as an indicator of lake- paleosalinity. This summer, Nate will be presenting some of his results at the upcoming 6th International Limnogeology Congress in Reno, NV, June 15-19. His presentation is titled “Zeolitic alteration in saline, alkaline paleolake basins in the Southern Kenya Rift based on analysis of minerals from Koora Plain (ODP) and Lake Magadi (HSPDP) core samples.”

Shed spotlight on your student! Send a photo & description (100 word max) of their involvement in an EAR-funded project to EARTtG@nsf.gov subject: “Student Spotlight”.

UPCOMING DEADLINES AND TARGET DATES

Industry/University Cooperative Research Centers Program (I/UCRC)	(NSF 13-594)	Letter of Intent Deadline:	June 26, 2015
		Full Proposal Deadline:	September 25, 2015
Geoinformatics (GI)	(NSF 11-581)	Full Proposal Deadline:	July 1, 2015
EPSCoR Research Infrastructure Improvement Program Track-1: (RII Track-1)	(NSF 15-566)	Letter of Intent Deadline:	July 7, 2015
		Full Proposal Deadline:	August 4, 2015
Petrology and Geochemistry (CH)	(NSF 15-557)	Target Date:	July 10, 2015
GeoPRISMS Program	(NSF 15-564)	Target Dates:	July 15, 2015
Faculty Early Career Development Program (CAREER)	(NSF 15-555)	Full Proposal Deadline:	July 23, 2015
Improving Undergraduate STEM Education: Pathways into Geoscience (IUSE: GEOPATHS)	(NSF 15-526)	Letter of Intent Deadline:	August 14, 2015
		Full Proposal Deadline:	October 5, 2015

UPCOMING DEADLINES AND TARGET DATES

Research Experiences for Undergraduates (REU)	(NSF 15-542)	Full Proposal Deadline:	August 26, 2015
Cooperative Studies of The Earth's Deep Interior (CSEDI)	(NSF 11-548)	Full Proposal Deadline:	September 28, 2015
Earth Sciences: Instrumentation and Facilities (EAR/IF)	(NSF 15-516)	Full Proposals Accepted:	Anytime
EarthCube	(NSF 13-529)	Full Proposals Accepted for EarthCube Research Coordination Networks	Anytime
Experimental Program to Stimulate Competitive Research: Workshop Opportunities (EPS-WO)	(NSF 12-588)	Full Proposals Accepted:	Anytime
Facilitating Research at Primarily Undergraduate Institutions (RUI) and Research Opportunity Awards (ROA)	(NSF 14-579)	Full Proposals Accepted: Deadlines vary by program; Contact cognizant program officer	Anytime
Geobiology and Low-Temperature Geochemistry (GG)	(NSF 15-559)	Full Proposals Accepted:	Anytime
Geomorphology and Land-Use Dynamics (GLD)	(NSF 15-560)	Full Proposals Accepted:	Anytime
Hydrologic Sciences (HS)	(NSF 15-558)	Full Proposals Accepted:	Anytime
Sedimentary Geology and Paleobiology (SGP)	(NSF 15-561)	Full Proposals Accepted:	Anytime
Grant Opportunities for Academic Liaison with Industry (GOALI)	(NSF 12-513)	Full Proposals Accepted:	Anytime
EAR Postdoctoral Fellowships (EAR-PF)	(NSF 15-568)	Full Proposal Deadline:	January 12, 2016
Dear Colleague Letter: Integrated NSF Support Promoting Interdisciplinary Research and Education (INSPRE)	(NSF 14-106)	Proposals Considered Through July	

[Proposal & Award Policies & Procedures Guide \(PAPPG\)](#), ([NSF 15-1](#)) has been issued and became effective on December 26, 2014.



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[@EarthScopeInfo](#): News, updates, and fun facts from the EarthScope Office

[@GeoPRISMS](#): News and updates from the GeoPRISMS Office



The Division of Earth Sciences

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This newsletter is designed to share information about NSF's Division of Earth Sciences. If you have comments or questions, please contact David Domanski at ddomansk@nsf.gov

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